

# MATERIAL SAFETY DATA SHEET



SOLARIS

DATE PREPARED: 05/18/2000

MSDS No: 6105

Ortho Dormant Disease Control Lime-Sulfur Spray

## 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Ortho Dormant Disease Control Lime-Sulfur Spray  
**PRODUCT DESCRIPTION:** fungicide

### MANUFACTURER

The SOLARIS Group  
of Monsanto Company  
P.O. Box 5008  
San Ramon, CA 94583-0808

### 24 HR. EMERGENCY TELEPHONE NUMBERS

Emergency Phone: 800-454-2333

EPA REG. NO.: 239-309 PN: 1136-O

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt. %	CAS#
Calcium Polysulfides	26	1344-81-6

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

**PHYSICAL APPEARANCE:** Clear yellow to orange liquid with the odor of rotten eggs

**IMMEDIATE CONCERNS:** CORROSIVE TO EYES  
CAUSES IRREVERSIBLE EYE DAMAGE AND SKIN BURNS  
HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH THE SKIN  
DO NOT BREATHE DUST, VAPOR OR SPRAY MIST  
MAY GIVE OFF HIGHLY TOXIC AND FLAMMABLE HYDROGEN SULFIDE  
GAS (H<sub>2</sub>S) IF MIXED WITH ACIDS  
KEEP OUT OF REACH OF CHILDREN

### POTENTIAL HEALTH EFFECTS

**EYES:** This substance is a severe eye irritant and could cause permanent damage to your eyes and blindness. The degree of the injury will depend on the amount of material that gets into the eye and the speed and thoroughness of the first aid treatment.

**SKIN:** This substance is a severe skin irritant/corrosive so contact with the skin could cause prolonged (weeks) injury to the affected area. The degree of injury will depend on the amount of material that gets on the skin and the speed and thoroughness of the first aid treatment. This substance is slightly toxic to internal organs if absorbed through the skin. The degree of injury will depend on the amount absorbed.

**INGESTION:** This substance is harmful if swallowed. The degree of injury will depend on the amount absorbed from the gut. This material decomposes in the digestive tract to release hydrogen sulfide. See Toxicological Information, section 11.

**INHALATION:** If inhaled, this substance is considered practically non-toxic to internal organs. If mixed with acids, highly toxic H<sub>2</sub>S gas will be released. This substance contains sulfur compounds which may form hydrogen sulfide. The rotten eggs odor of hydrogen sulfide is unreliable as an indicator of concentration. The U.S. Occupational Safety and Health Administration (OSHA) considers an atmosphere containing concentrations of H<sub>2</sub>S greater than 300 ppm to be Immediately Dangerous to Life and Health (IDLH).

## **SIGNS AND SYMPTOMS OF OVEREXPOSURE**

**EYES:** May include discomfort, tears, swelling, redness, and blurred vision.

**SKIN:** May include pain or a feeling of heat, discoloration, swelling, and blistering.

**INGESTION:** Symptoms of H<sub>2</sub>S toxicity may include headache, nausea, vomiting, drowsiness, amnesia, tremors, depressed respiration, convulsions, cyanosis and death due to respiratory paralysis. Severe irritation of the digestive tract may also occur.

**INHALATION:** Overexposure to hydrogen sulfide include respiratory tract irritation, headaches, dizziness, nausea, gastrointestinal disturbances, coughing, a sensation of dryness and pain in the nose, throat and chest, confusion and unconsciousness. The U.S. Occupational Safety and Health Administration (OSHA) considers an atmosphere containing concentrations of H<sub>2</sub>S greater than 300 ppm to be Immediately Dangerous to Life and Health (IDLH).

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## **4. FIRST AID MEASURES**

**EYES:** Immediately hold eyelids open and flush eyes with plenty of water. Remove any contact lenses and flush eyes for at least 15-20 minutes. Ensure both upper and lower eyelids are flushed. Get medical attention immediately.

**SKIN:** Remove contaminated clothing while flushing affected area with water. Continue flushing for 20 minutes. Wash affected area with mild soap and water. Get medical attention immediately.

**INGESTION:** Immediately rinse mouth with water. If within 30 minutes after

ingestion, give a small glass of water (never give anything by mouth to an unconscious person). If water is not available, give milk. Do not induce vomiting. Get medical attention immediately.

**INHALATION:** Move to fresh air. Seek medical attention immediately if breathing becomes difficult or symptoms develop.

**NOTES TO PHYSICIAN:** In addition to the use of 100% oxygen and supportive care, suggested treatment for hydrogen sulfide poisoning includes the use of nitrites. This is based on similar mechanisms of toxicity between hydrogen sulfide and hydrogen cyanide. The nitrite-induced methemoglobin is thought to bind the toxic hydrosulfide ion. Initial inhalation of amyl nitrite pearls for 15 to 30 seconds of each minute should be initiated until 10 ml of a 3% solution of sodium nitrite can be administered intravenously at 2.5 to 5 ml per minute. While the efficacy of nitrites in hydrogen sulfide poisoning has not been unequivocally demonstrated, their use is recommended as part of the treatment regimen. Hyperbaric oxygen therapy has been used for cyanide poisoning with some success and may be of benefit in hydrogen sulfide poisoning if other measures are ineffective.

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## 5. FIRE FIGHTING MEASURES

**FLASHPOINT AND METHOD:** None

**FLAMMABLE LIMITS:** N/A to N/A

**AUTOIGNITION TEMPERATURE:** Not Applicable

**EXTINGUISHING MEDIA:** Not flammable

**HAZARDOUS COMBUSTION PRODUCTS:** This material will not burn.

**FIRE FIGHTING PROCEDURES:** Products of combustion from fires involving this material may be toxic. Avoid breathing smoke and mists. Avoid personnel and equipment contact with fallout and runoff. Minimize the amount of water used for fire fighting. Do not enter any enclosed area without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Decontaminate personal protective equipment and fire fighting equipment before reuse. Read the entire document.

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## 6. ACCIDENTAL RELEASE MEASURES

**SMALL SPILL:** Clean up spills immediately, observing precautions in Exposure Controls/Personal Protection Section. Cover spill with a generous amount of Oil Dry, cat litter, clay, rags or other absorbent. Use a stiff broom to mix thoroughly. Sweep up and place in a disposable container. Scrub contaminated area with detergent and water using a stiff broom. Pick up liquid with additional absorbant and place in a disposable container.

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## 7. HANDLING AND STORAGE

**GENERAL PROCEDURES:** Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Avoid contamination of feed, foodstuffs fertilizers, seeds, insecticides, or fungicides. Store in a cool dry place, preferably in a locked storage area. Do not store diluted spray. Do not reuse container for food or other products for human consumption. Follow all MSDS/label warnings even after container is emptied. Keep this and all other chemicals out of reach of children.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

### PERSONAL PROTECTION

**EYES AND FACE:** Appropriate eye protection must be worn when working with this material or serious harm can result. Wear chemical goggles or a face shield at all times.

**SKIN:** Do not get on skin or on clothing. Wear protective clothing including gloves when handling.

**RESPIRATORY:** This material may be an inhalation hazard and, unless ventilation is adequate, the use of NIOSH approved respiratory protection is recommended. Note: If any of the applicable hydrogen sulfide standards are likely to be exceeded, positive supplied-air respiratory protection must be used. The ACGIH TWA for hydrogen sulfide is 10 ppm. The OSHA STEL is 15ppm.

### OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200):

Chemical Name	EXPOSURE LIMITS		
	OSHA PEL	ACGIH TLV	ACGIH STEL
Calcium Polysulfides	NE	NE	NE

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL STATE:** Liquid

**ODOR:** Odor of rotten eggs

**APPEARANCE:** Clear, yellow-orange liquid

**COLOR:** Yellow to orange

**DENSITY:** 10.4/gal.

**COMMENTS:**

**pH:** 10.5 (For a 10% Solution)

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**10. STABILITY AND REACTIVITY**

**STABLE:** YES

**HAZARDOUS POLYMERIZATION:** NO

**CONDITIONS TO AVOID:** Avoid contact with acids.

**STABILITY:** Stable.

**POLYMERIZATION:** Will not occur.

**INCOMPATIBLE MATERIALS:** May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc

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**11. TOXICOLOGICAL INFORMATION****ACUTE**

**EYES:** Corrosive (irreversible destruction of ocular tissue); corneal involvement and irritation persisting for more than 21 days.

**DERMAL LD<sub>50</sub>:** Severe irritation at 72 hours. (Severe erythema or edema). The dermal LD50 in rabbits is 2 g/kg.

**ORAL LD<sub>50</sub>:** The oral LD50 in male rats is 712 mg/kg. The oral LD50 in female rats is 520 mg/kg. Ingestion may cause nausea and vomiting. Burns to the mouth, throat, esophagus, and stomach may also occur. Metabolic acidosis has been documented in cases following ingestion of calcium polysulfide. Calcium polysulfide is considered harmful if swallowed.

**INHALATION LC<sub>50</sub>:** The 4-hour Inhalation LC50 in rats is > 6.1 mg/l.

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**12. ECOLOGICAL INFORMATION**

**ENVIRONMENTAL DATA:** No data available.

**ECOTOXICOLOGICAL INFORMATION:** This material may be toxic to aquatic organisms and should be kept out of sewage and drainage systems and all bodies of water.

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## 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Partially filled container may be disposed of by securely wrapping original container in several layers of newspaper and discard in trash. Do not reuse empty container. Ensure that disposal is in compliance with local, state, and federal regulations.

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## 14. TRANSPORT INFORMATION

**DOT (DEPARTMENT OF TRANSPORTATION)**

**PROPER SHIPPING NAME:** Consumer Commodity

**PRIMARY HAZARD CLASS/DIVISION:** None

**PACKING GROUP:** N/A

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## 15. REGULATORY INFORMATION

**UNITED STATES**

**SARA TITLE III (SUPERFUND AMENDMENTS AND  
REAUTHORIZATION ACT)**

PRODUCT CLASSIFICATION UNDER SECTION 311 OF SARA				
<b>ACUTE:</b> YES	<b>CHRONIC:</b> NO	<b>FIRE:</b> NO	<b>REACTIVITY:</b> YES	<b>PRESSURE GENERATING:</b> NO

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## 16. OTHER INFORMATION

**HMIS CODES**

**FIRE:** 0 **HEALTH:** 3 **REACTIVITY:** 3

**NFPA CODES**

**FIRE:** 0 **HEALTH:** 4 **REACTIVITY:** 3

**APPROVAL DATE:** 05/18/2000

**REVISION SUMMARY** New MSDS

**MANUFACTURER SUPPLEMENTAL NOTES:** EPA FIFRA (Federal Insecticide, Fungicide and Rodenticide Act) Toxicity Categories: The EPA toxicity categories are based on the results of the acute toxicology studies. The toxicology findings are compared to the FIFRA criteria to determine the product label signal word, precautionary and first aid statements. The EPA FIFRA toxicity category summary:

EPA FIFRA Product Label Toxicity Rating  
Toxicity Category Signal Word

I DANGER Most toxic and irritating  
II WARNING  
III CAUTION  
IV CAUTION Least toxic and irritating

**COMMENTS:** For additional information concerning this product, call the SOLARIS Groups Consumer Helpline at 800-225-2883.

**MANUFACTURER DISCLAIMER:** This Material Safety Data Sheet (MSDS) contains health, safety and environmental information for you and your employees. It does not replace the precautionary language, use directions, or the storage and disposal information found on the product label. Information contained in this MSDS will help you to prepare for emergency response and to meet community right-to-know, emergency response and reporting requirements under SARA Title III and many other laws. Emergency response agencies and health care providers will also find this additional information useful.

Use of this product is regulated by the U.S. Environmental Protection Agency (EPA) through the approved label copy. It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

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